Sintering of Iron Powder in   S/129/61/000/007/013/016
                                      E073/E535

97.7% Fe$_{tot}$.   The magnetic properties were measured by a
ballistic method, the specific surface was measured by the
permeability method.   The change in the specific surface, the
coercive force and the UTS as a function of the volume concentra-
tion of the hydrogen chloride in the hydrogen were measured using
the same methods as were used in the earlier work (Ref.1). Fig.2
shows the change in the specific surface of the specimen, s, m^2/g,
during sintering as a function of the volume concentration of
HCl (porosity of the pressed specimens about 30%, specific
surface of the non-sintered specimens 0.17 m^2/g, sintering at
1200°C for 15 min). Fig.3 shows the coercive force, H, Oe, of
briquettes as a function of the volume concentration, %, of the
HCl in the sintering atmosphere, sintering at 1200°C: curve 1 -
15 min, initial porosity 30%, curve 2 - 15 min, initial porosity
23%, curve 3 - 3-4 hours, initial porosity 10%. Fig.4 shows
the change in the strength, σ, kg/mm^2, of rolled strip specimens
(7 x 1 x 60 mm) as a function of the HCl concentration in the
sintering atmosphere for an initial porosity of 30%, a sintering
temperature of 1200°C and a sintering time of 30 min. The

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is not sufficient to obtain sintered iron components
with properties approaching the properties of compact components
and, therefore, the specimens are usually twice pressed and
sintered. The influence of preliminary sintering on the
properties of the components after pressing and sintering was
investigated and the results are tabulated. An improvement in
the properties on sintering in a dissociated atmosphere was
observed only after sintering times exceeding 10 to 15 min,
since shorter times are not sufficient for the reaction to
proceed to any appreciable degree. An improvement in the properties
by 25 to 40% can be achieved. The properties of the final product
will be the better the higher the properties of the specimens
after the first sintering. By using an atmosphere of H₂ + 10% HCl
in the preliminary sintering (15-30 min at 1100°C to 1200°C),
properties equalling those of cast electrical steel Э (E) can be
achieved after final pressing to a density of 7.7-7.8 and sinter-
ing at 1200°C for 4 hours. There are 3 figures, 2 tables and
6 references: 3 Soviet and 3 non-Soviet. The English-language
reference reads as follows. Steinitz, R. Journal appl. Phys v 20,
1949).
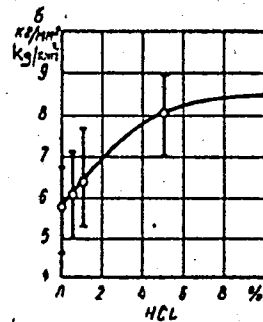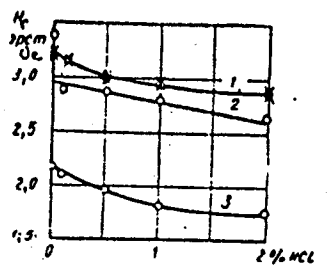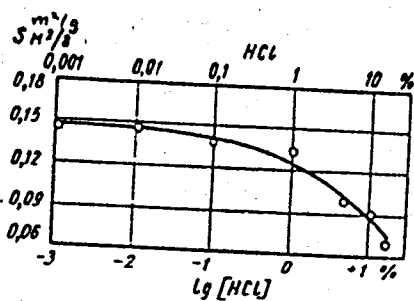Card 4/5

Sintering of Iron Powder in ...   S/129/61/000/007/013/016
24198
E073/E535

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov
AN UkrSSR (Institute of Cermets and Special Alloys,
AS UkrSSR)

Fig.2   Fig.3   Fig.4

Card 5/5

AUTHOR: Andriyevskiy, R. A. and Dmitriyeva, M. A.

TITLE: Iron-copper metal powder filters

PERIODICAL: Poroshkovaya metallurgiya, no. 2, 1962, 66–73

TEXT: The investigation was carried out because of the great demand for filters for crude oil, diesel fuels and lubricants. Phosphor, nickel and copper were added, but the results obtained indicate that the best permeability is attained with compositions of Fe + 10% Cu added as $CuCl_2$) sintered in an atmosphere of hydrogen chloride. The optimum temperature for sintering iron–copper filters is 1100–1150°C. The authors have no knowledge of any thorough method of improving the poor corrosion resistance of iron–copper powder filters apart from either treatment in nitrate baths or oxidation by heating them to 300–400°C exposed to the atmosphere and quenching in oil. There are 6 figures.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Powder Metallurtgy and Special Alloys AS UkrSSR)

SUBMITTED: December 12, 1961

Card 1/1

ANDRIYEVSKIY, R.A.

"Fundamental principles of powder metallurgy" by W.D. Jones. Reviewed
by R.A. Andrievskii. Porosh. met. 2 no.3:112-114 My-Je '62.

(MIRA 15:7)

(Powder metallurgy)   (Jones, W.D.)

ANDRIYEVSKIY, R.A.; SOLONIN, S.M.

Calculating isobaric potentials of reactions occurring during
the sintering of alloyed steel in HCl and HF media. Porosh.
met. 2 no.4:94-99 Jl-Ag '62.   (MIRA 15:8)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
                 (Powder metallurgy)

ANDRIYEVSKIY, R.A.; TEVEROVSKIY, B.Z.

Investigating the permeability to gas and the fineness of cleaning of nonspherical powder filters. Porosh. met. 3 no.1:69-74 Ja-F '63.

(MIRA 16:3)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR i Dnepropetrovskiy metallurgicheskiy institut.

(Filters and filtration--Cleaning)

(Metal powders--Permeability)

ANDRIEVSKI, R.A. [Andriyevskiy, R.A.]; FEDORCENKO, I.M. [Fedorchenko, I.M.]

The creep processes at the sintering of metalloceramic briquets.
Analele metalurgie 16 no.2:124-136 Ap-Je '62.

ANDRIEVSKI, R.A. [Andriyevskiy, R.A.]; HOLEAVENKO, K.H. [Kholyavenko, K.M.];
    PILEANKEVICI, A.N. [Pilyankevich, A.N.]

    Specific surfaces of metallic powders studies comparatively
    and by various methods. Analele metalurgie 16 no.2:137-141
    Ap-Je '62.

AID Nr. 983-9   5 June

CORROSION RESISTANCE OF SINTERED Cr-Ni STEELS (USSR)

Andriyevskiy, R. A., and V. P. Kopylova. Poroshkovaya metallurgiya, no. 2,
Mar-Apr 1963, 49-54.   S/226/63/000/002/007/014

The Institute of Powder Metallurgy and Special Alloys of the Ukrainian Academy
of Sciences has studied the corrosion resistance of sintered Cr-Ni stainless steels
X17H2 [AISI 431] (2% Ni, 0.15% Si), X23H18 [AISI 310], 1X18H9T [AISI 321], and 0X18H9
[AISI 302]. Test specimens 5 x 7 x 40 mm with a residual porosity of 38 $\pm$ 1%
were prepared by cold compacting and sintering at 1200°C for 2 hrs in a hydrogen
atmosphere. The corrosive media were 10%, 50%, and concentrated HNO_3, 10%
H_2SO_4, 10% NaOH, and tap water. The changes in electric resistivity of speci-
mens and the amount of dissolved iron were the criteria of corrosion resistance.
Results showed the austenitic X23H18 steel to be the most corrosion resis-
tant. The 1X18H9T steel had the least resistance, probably because of the presence
of Ti, which makes the steel extremely sensitive to the moisture content in hydrogen.

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AID Nr. 983-9   5 June

CORROSION RESISTANCE [Cont'd]   S/226/63/000/002/007/014

The   X17H2 and OX18H9 steels were about equally corrosion resistant, except in
10% H_2SO_4, in which the X17H2 disintegrated completely after a 5-hr test.   In
NaOH and HNO_3 all tested steels were passivated; corrosion rate was low.   The cor-
rosion rate was also low in tap water.   In general, the corrosion behavior of the
porous stainless steels studied was similar to that of cast steels.   The shear
strength of all steels after 2000-hr corrosion tests decreased, especially those
tested in 10% and concentrated HNO_3.   The 10% NaOH and water did not substan-
tially affect shear strength, except that of 1X19H9T steel, whose initial shear
strength of 18 kg/mm² dropped to 11.5 and 10.5 kg/mm² after tests in 10% NaOH
and water, respectively.   Specimens tested in 10% H_2SO_4 disintegrated after a
500-1000-hr test.   [MS]

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S/226/63/000/001/010/016
E039/E435

AUTHORS: Andriyevskiy, R.A., Teverovskiy, B.Z.

TITLE: Investigation of gas permeability and fineness of
             purification of filters made of non-specific powders

PERIODICAL: Poroshkovaya metallurgiya, no.1, 1963, 69-74

TEXT: If waste gases from blast furnaces could be subjected to
dry purification and used in gas turbines, a saving of not less
than 2 million tons of conventional fuel per year could be attained.
Hence the interest in powdered metal filters.   The sample filters
tested were in the form of tubes 50 mm diameter with a wall
thickness of 5 mm and length ∼50 mm when prepared by the usual
method of pressing, and ∼100 mm long when prepared by extrusion.
The filters were made from reduced powdered alloy steel type X17Н2
Kh17N2).   The resistance of these filters was measured by blowing
through them air in which was dispersed blast furnace dust.
A special apparatus including a proportioning hopper and Venturi
mixer enabled a uniform distribution of dust to be obtained.   For
pure air a linear relation between the resistance   P   and the
specific loading   Q   was obtained $\Delta P = f(Q)$

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Investigation of gas ...

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E039/E435

for values of Q up to ~20 m^3/m^2 min. When using dust laden
air it is shown that the filters are not subject to regeneration.
The thickness of the dust layer deposited on the filter is given by

$$h = \frac{qQt}{\gamma_H} \qquad (1)$$

where q - defines the dust content g/m^3, Q - specific loading
m^3/m^2 min, t - time, min; γ_H - weight of one cubic meter of dust.
The permeability coefficient α (cm^2) for the dust layer is given
by

$$\alpha = 1.7 \cdot 10^{-6} \frac{Q^2 qt\eta}{\gamma_H \Delta P} \qquad (2)$$

where η - viscosity (poise), ΔP - resistance of dust layer, in
mm of water. Values of α for all the samples calculated from
Eq.(2) for Q ~$4m^3/m^2$ min vary from 5.3 to 13.1 x $10^{-10} cm^2$.
This is for two reasons. Firstly, Eq.(2) is based on the assumption
that the dust particles do not penetrate into the pores of the
filter and secondly, conditions of experiment were not always
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Investigation of gas ...

identical.   There are 3 figures and 2 tables.

ASSOCIATIONS: Institut metallokeramiki i spetsial'nykh splavov
AN USSR (Institute of Powder Metallurgy and Special
Alloys AS UkrSSR)
Dnepropetrovskiy metallurgicheskiy institut
(Dnepropetrovsk Metallurgical Institute)

SUBMITTED: May 10, 1962

Card 3/3

ANDRIYEVSKIY, R., kand. tekhn. nauk

From the primitive hearth to modern materials. Tekh. mol. 31
no.6:35-36 '63.
(MIRA 16:7)

(Powder metallurgy)

ANDRIYEVSKIY, R.A. (Kiyev); KALIKHMAN, V.L. (Kiyev); SOLONIN, S.M. (Kiyev)

Effect of sintering temperatures on the shrinkage, properties
and the structure of briquets made of chromium-nickel steel
powders. Izv. AN SSSR. Otd. tekh. nauk. Met. i gor. delo
no.2:104-111 Mr-Ap '63.   (MIRA 16:10)

ACCESSION NR: AP4040470   S/0226/64/000/003/0032/0039

AUTHOR: Andriyevskiy, R. A.; Solonin, S. M.

TITLE: Sintering of chromium-nickel-steel powders

SOURCE: Poroshkovaya metallurgiya, no. 3 (21), 1964, 32-39

TOPIC TAGS: stainless steel powder, powder sintering, powder phase composition, powder property, powder composition, sintered stainless steel

ABSTRACT: The sintering of powders of stainless steels Kh30 (AISI-446), Kh17N2 (AISI-431), Kh23N18 (AISI-310), 1Kh18N9T (AISI-321), and OKh18N9 (AISI-304), obtained by the reduction of chromium and nickel oxides, has been studied. Ferritic steel powders are more easily sintered than austenitic steel powders because of the presence of oxides on the surface of particles of austenitic steel powders. Kh30 and 1Kh18N9T steel powders are homogeneous in the initial condition, whereas OX18N9 and Kh23N18 steel powders are heterogeneous. All these steels are homogeneous in the sintered condition. Shrinkage and strength increases with increasing temperature, particularly in

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L 16476-65   EWP(e)/EWT(m)/EWP(k)/EWP(b)/EWP(t)   Pf-4   ESD(gs)/ESD(t)/BSD/AFWL/
ASD(m)-3   JD
ACCESSION NR AM4049795 `   BOOK EXPLOITATION   S/

Andriyevskiy, Rostislav Aleksandrovich   C+/

Porous metal powder products (Poristy*ye metallokeramicheskiye materialy*),
Moscow, Izd-vo "Metallurgiya", 1964, 186 p. illus., biblio. Errata slip
inserted. 3,200 copies printed.

TOPIC TAGS: powder metallurgy, porous powder metallurgical product, filter

TABLE OF CONTENTS [abridged]:

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ACCESSION NR AM4049795

O

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Ch. IX. Comparison of powder metallurgical porous materials with other
porous articles -- 175
Bibliography -- 179

SUB CODE: MM   SUBMITTED: 27Dec63   NR REF SOV: 142

OTHER: 135

Card 2/2

LALUNIN, Ye.A., kand. tekhn. nauk; TETEROVSKIY, N.T., kand. tekhn. nauk;
GILMAN, Ye.D.; FEDORCHENKO, I.M., akademik; PUGIN, V.S.;
STALISKIY, V.I.; ANDRIYEVSKIY, R.A.

Dry cleaning of blast furnace gas in ceramic metal filters.
Met. i gornorud. prom. no.6:14-17 N-D '64.

(MIRA 18:3)

1. Akademiya nauk UkrSSR (for Fedorchenko).

L 15736-65   EWP(e)/EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP( )   Pf-4   MJW/JD/HW/
ACCESSION NR: AP4044915   HW/WB   S/0226/64/000/004/0091/0096

AUTHOR: Kakhovskiy, N. I.; Ponizovtsev, A. M.; Andriyevskiy, R. A.;
Solonin, S. M.

TITLE: Welding of porous high-alloy Kh17N2 steel

SOURCE: Poroshkovaya metallurgiya, no. 4, 1964. 91-96

TOPIC TAGS: stainless Kh17N2 steel, sintered Kh17N2 steel, sintered
stainless steel welding, weld metal property, weld metal corrosion
resistance

ABSTRACT: Plates, 40 x 60 x 3 mm, and bushings, 50--70 mm in diame-
ter with a porosity varying from 30 to 60%, made by the powder-
metallurgy method from Kh17N2 stainless steel powder (0.1% C, 16.9%
Cr, 2% Ni, 0.15% Ni), were TIG welded with or without filler wire,
or CO_2 welded with a consumable electrode. TIG welding without fil-
ler wire produced sound welds in steel with a porosity up to 30%.
The optimum conditions for welding 5-mm thick metal were: electrode

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ACCESSION NR: AP4044915

diameter, 1.0--1.2 mm; current, 70--80a; voltage, 8--9v; welding
speed, 18--22 m/hr. For thinner metal the current should be lower.
Filler wire should be used in welding metal with a higher porosity.
In both argon-arc and consumable-electrode CO_2 welding of porous,
high-alloy austenitic and martensitic steels, austenitic standard
filler wire Sv-08Kh20N9G7T, Sv-08Kh20N10G6, Sv-10Kh20N15, or
Sv-06Kh18N9T produce weld metal with satisfactory microstructure,
mechanical properties, corrosion resistance, and ductility. In con-
sumable-electrode CO_2 welding, the electrode diameter should be
0.6--0.7 mm max. Annealing in dry hydrogen at 1200C for 1 hr and
subsequent normalization improve corrosion resistance of metal in the
heat-affected zone. The annealing, however, decreases the microhard-
ness of the weld metal from 170 to 75--90 dan/mm^2 and that of the
parent metal from 100--180 to 75--120 dan/mm^2. A somewhat higher
porosity was observed in the fusion zone, although in the annealed
metal it appeared to be uniform. Orig. art. has: 5 figures and 1
table.

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L 15736-65
ACCESSION NR: AP4044915   2

ASSOCIATION: Institut Elektrosvarki im. Ye. O. Patona AN UkrSSR
(Electrowelding Institute AN UkrSSR); Institut problem materialoved-
eniya AN UkrSSR(Institute of the Science of Materials AN UkrSSR)

SUBMITTED: 17Apr63   ENCL: 00

SUB CODE: MM, IE   NO REF SOV: 002   OTHER: 002

Card 3/3

KONEV, F.A.; TIMOFEYEV, V.V.; FEDORCHENKO, I.M.; ANDRIYEVSKIY, R.A.

Ceramic metal filters for the filtration of air and water.
Porosh. met. 4 no.6:84-88   N-D '64.   (MIRA 18:3)

1. Khar'kovskiy nauchno-issledovatel'skiy khimiko-farmatsevti-
cheskiy institut i Institut problem materialovedeniya AN UkrSSR.

ANDRIYEVSKIY, S. (Kishinev)

The air line has become profitable. Grazhd.av. 14 no.2:29
F '57.   (MLRA 10:5)
            (Aeronautics, Commercial)

ANDRIYEVSKIY, S., inzh.

Electric power from "nothing." Tekh.mol. 28 no.9:16 '60.
(MIRA 13:10)

(Electric power plants)   (Gas turbines)

ANDRIYEVSKIY, S. (Kiyev)

Engineers and technicians discuss the plans of new equipment.
NTO 5 no.10:5-7 O '63.   (MIRA 17:1)

1. Spetsial'nyy korrespondent zhurnala "Nauchno-tekhnicheskiye
obshchestva SSSR".

ANDRIYEVSKIY, S. K.

Remont elektricheskikh mashin i puskoreguliruiushchei apparatury /Repairing electric
machines and starter-control apparatug/. Kiev, Gostekhizdat USSR, 1952. 208 p.

SO: Monthly List of Russian Accessions, Vol 6 No 6 September 1953

ANDRIYEVSKIY, S.K.; SHAPIRO, M.N. [authors]; TURTIN, I.C., master [reviewer].

"Repair of electrical machines and of start regulating apparatus." S.K.
Andrievskii, M.N.Shapiro. Reviewed by I.S.Turtin. Energetik 1 no.1:39-40
Je '53.   (MLRA 6:8)
          (Andrievskii, S.K.) (Shapiro, M.N.) (Electric machinery)

ANDRIYEVSKIY, Sergey Konstantinovich; SHAPIRO, Mikhail Naumovich;
PISARENKO, M., redaktor; GOLOVCHENKO, G.M tekhnicheskiy
redaktor.

[Repair of electric machines and starter-control apparatus]
Remont elektricheskikh mashin i puskoreguliruiushchei appara-
tury. Izd.2-oe, dop. i ispr. Kiev, Gos.izd-vo tekhn.lit-ry
USSR, 1955. 245 p.   (MLRA 8:12)
        (Electric machinery--Maintenance and repair)

ANDRIYEVS'KIY, Sergiy Kostyantinovich; SHAPIRO, Mikhaylo Naumovich;
KILIMNIK,M.A., redaktor; SIDNIEV, P.P., redaktor; MONZHERAN,
V.F., tekhnichniy redaktor

[Principles of electric engineering; a textbook for students of
secondary schools] Osnovy elektrotekhniky; posibnyk dlia uchniv
seredn'oi shkoly. Kyiv, Derzh. uchbovo-pedagog. vyd-vo "Radians'ka
shkola," 1957. 294 p.   (MIRA 10:6)
        (Electric engineering)

ROZENBERG, M.I.; ANDRIYEVSKIY, S.K.; PUSHKAREV, N.A.

[Readings in physics] Kniga dlia chteniia po fizike. Sost.
S.K.Andrievskii, N.A.Pushkarev i M.I.Rozenberg. Moskva, Gos.
uchebno-pedagog.izd-vo. Pt.1. [Mechanics] Mekhanika. 1958.
(MIRA 14:1)

(Mechanics)

ANDRIYEVSKIY, Sergey Konstantinovich; SHAPIRO, Mikhail Naumovich;
GARKUSHA, V., red.; SHAFETA, S., tekhn.red.

[Overhauling of electrical machinery and apparatus for the
regulation of starting] Remont elektricheskikh mashin i
puskoreguliruiushchei apparatury. Izd.2., ispr. i dop. Kiev,
Gos.izd-vo tekhn.lit-ry USSR, 1959. 277 p.   (MIRA 12:12)
        (Electric machinery--Maintenance and repair)

ANDRIEVSKIY, Sergey Konstantinovich; BARTNOVSKIY, A.L.

[Practical manual for electrical engineering; a textbook for grade 10 of the secondary school]Praktikum po elektrotekh-nike; uchebnoe posobie dlia uchashchikhsia X klassa srednei shkoly. Izd.3., perer. Moskva, Gos.uchebno-pedagog.izd-vo, 1960. 191 p.   (MIRA 15:10)
            (Electric engineering)

ANDRIYEVSKIY, S.

Toward a single objective. NTO 2 no.7:7-8 Jl '60.

(MIRA 13:7)

(Kiev--Hydroelectric power stations)

S/029/60/000/009/005/008
B013/B060

AUTHOR: Andriyevskiy, S., Engineer

TITLE: Electric Power From "Nothing"

PERIODICAL: Tekhnika molodezhi, 1960, No. 9, p. 16

TEXT: The author reports on a turbine installed at the Kiyevskaya
gazoraspredelitel'naya stantsiya No. 1 (Kiyev Gas Distribution Station
No. 1), which is connected with an electric generator and apparently
works without any energy source. At Station No. 1, the pressure of the
gas supplied from Dashava to Kiyev is reduced from an average of 20 atm
to a consumption pressure of 3 atm. Engineer A. V. Aleksandrov of the
Moskovskoye upravleniye magistral'nykh gazoprovodov (Moscow Administration
of Main Gas Conduits) found a way of utilizing the excess energy set free
in the process. The system installed in Kiyev was assembled on his
recommendation. In fact, this system derives its energy from compressors
operating in a remote substation, and makes use of an ordinary, very
tightly sealed-off steam turbine. It is connected with a triphase current
generator delivering the generated energy to the municipal power line over

Card 1/2

ANDRIYEVSKIY, S.K. [Abdriievs'kyi, S.K.], inzh.

The flame of sky-blue lights. Nauka i zhittia 10 no.8:17-18 Ag '60.
(MIRA 13:8)

(Gas, Natural)

ANDRIYEVSKIY, Sergey Konstantinovich[Andriievs'kyi, S.K.], inzh.;
TSVYAKH, V.M., inzh., retsenzent; DEREVETS', S.K., red.;
izd-va; STARODUB, T.O., tekhn. red.

[Electricity in everyday life] Elektryka v pobuti. Kyiv,
Derzhtekhvydav URSR, 1962. 118 p.   (MIRA 16:6)
        (Household appliances, Electric)
            (Electric wiring)

ANDRIYEVSKIY, S.M., kandidat tekhnicheskikh nauk; SHESTAKOV, V. N., kandidat
tekhnicheskikh nauk.

Lateral wear of rails on curves. Vest.TSNII MPS no.1:22-29 F '57.
(MLRA 10:3)

(Railroads--Rails)

ANDRIYEVSKIY, S.M., kand. tekhn. nauk; MELENT'YEV, L.P., kand. tekhn. nauk.

Two stages in the lateral wear of rails on curves. Vest. TSNII MPS
17 no.4:19-22 Je '58.   (MIRA 11:6)
                    (Railroads--Rails) (Mechanical wear)

ANDRIYEVSKIY, S.M., kand. tekhn. nauk

Side wear and crushing of rail heads on curves.   Vest. TSNII MPS 19
no.3:40-46 '60.   (MIRA 13:10)
                    (Railroads—Rails)

ANDRIYEVSKIY, S.M.; POPOV, A.V., inzh, red.; KHITROVA, N.A., tekhn.red.

[Side wear of rails on curves] Bokovoi iznos rel'sov na krivykh.
Moskva, Vses. izdatel'sko-poligr. ob"edinenie m-va putei soob.,
1961. 126 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii
institut zheleznodorozhnogo transporta. Trudy, no.207).

(MIRA 14:5)

(Railroads—Rails)

ANDRIYEVSKIY, S.M., kand.tekhn.nauk; ZOL'NIKOV, S.S., kand.tekhn.nauk;
KISELEV, A.I., inzh.; KOROLEV, K.P., doktor tekhn.nauk, prof.;
KRYLOV, V.A., kand.tekhn.nauk; SHESTAKOV, V.N., kand.tekhn.nauk;
VERIGO, M.F., doktor tekhn.nauk; KREPKOGORSKIY, S.S., kand.
tekhn.nauk; IVANOV, V.V., doktor tekhn.nauk, retsenzent;
ORLOVA, I.A., inzh.red.; VOROB'YEVA, L.V., tekhn.red.

[Truck-type locomotive underframes for high-speed traffic]
Telezhechnye ekipazhi lokomotivov dlia povyshennykh skorostei
dvizheniia. Moskva, Vses. izdatel'sko-poligr. ob"edinenie
M-va putei soobshcheniia, 1962. 303 p. (Moscow. Vsesoiuznyi
nauchno-issledovatel'skii institut zheleznodorozhnogo
transporta. Trudy, no.248).   (MIRA 16:2)
                    (Locomotives—Design and construction)
                          (Railroad engineering)

ANDRIYEVSKIY, V.; GRIGOR'YAN, G.; SHLYAPNIKOVA, A., starshiy inzhener

New rules are needed for the technical operation of loading and
unloading machines. Mor. flot. 22 no.5:6-8 My '62. (MIRA 15:5)

1. Nachal'nik otdela po tekhnicheskoy ekspluatatsii Leningradskogo
instituta po proyektirovaniyu morskikh portov i sudoremontnykh
predpriyatiy (for Andriyevskiy).
                              (Harbors—Regulations)
              (Cargo handling—Equipment and supplies)

BUYAL'SKIY, G.; ANDRIYEVSKIY, V.; GAVRILOV, I., inzh.; STECHENKO, V.;
SIDORENKO, I.

Outstanding workers. Avt. transp. 43 no.8:6 Ag '65.
(MIRA 18:9)

ANDRIYEVSKIY, V.D.

ABRAMOV, S.K., kand.tekhn.nauk; AVERSHIN, S.G., prof., doktor tekhn.nauk;
AMMOSOV, I.I., doktor geol.-min.nauk; ANDRIYEVSKIY, V.D., inzh.;
ANTROPOV, A.N., inzh.; AFANAS'YEV, B.L., inzh.; BERGMAN, Ya.V.,
inzh.; BLOKHA, Ye.Ye., inzh.; BOGACHEVA, Ye.N., inzh.; BUKRINSKIY,V.A.,
kand.tekhn.nauk; VASIL'YEV, P.V., doktor geol.-min.nauk; VINOGRADOV,
B.G., inzh.; GOLUBEV, S.A., inzh.; GORDIYENKO, P.D., inzh.; GUSEV, N.A.,
kand.tekhn.nauk; DOROKHIN, I.V., kand.geol.-min.nauk; KALMYKOV, G.S.,
inzh.; KASATOCHKIN, V.I., doktor khim.nauk; KOROLEV, I.V., inzh.;
KOSTLIVTSEV, A.A., inzh.; KRATKOVSKIY, L.F., inzh.; KRASHENINNIKOV, G.F.,
prof. doktor geol.-min.nauk; KRIKUNOV, L.A., inzh.; LEVIT, D.Ye., inzh.;
LISITSA, I.G., kand.tekhn.nauk; LUSHNIKOV, V.A., inzh.; MATVEYEV, A.K.,
dots., kand.geol.-min.nauk; MEPURISHVILI, G.Ye., iznh.; MIRONOV, K.V.,
inzh.; MOLCHANOV, I.I., inzh.; NAUMOVA, S.N., starshiy nauchnyy sotrudnik;
NEKIPELOV, V.Ye., inzh., PAVLOV, F.F., doktor tekhn.nauk; PANYUKOV, P.N.,
doktor geol.-min.nauk; POPOV, V.S., inzh.; PYATLIN, M.P., kand.tekhn.
nauk; RASHKOVSKIY, Ya.E., inzh.; ROMANOV, V.A., prof., doktor tekhn.
nauk; RYZHOV, P.A., prof., doktor tekhn.nauk; SELYATITSKIY, G.A., inzh.;
SPERANSKIY, M.A., inzh.; TERENT'YEV, Ye.V., inzh.; TITOV, N.G.,doktor
khim.nauk; GOKAREV, I.F., inzh.; TROYANSKIY, S.V., prof., doktor geol.-
min.nauk; FEDOROV, B.D., dots., kand.tekhn.nauk;FEDOROV, V.S., inzh.
[deceased]; KHOMENTOVSKIY, A.S., prof., doktor geol.-min.nauk; TROYANOV-
SKIY, S.V., otvetstvennyy red.; TERPIGOREV, A.M., red.; KRIKUNOV, L.A.,
red.; KUZNETSOV, I.A., red.; MIRONOV, K.V., red.; AVERSHIN, S.G., red.;
BURTSEV, M.P., red.; VASIL'YEV, P.V., red.; MOLCHANOV, I.I., red.;
RYZHOV, P.A., red.; BALANDIN, V.V., inzh., red.; BLOKH, I.M., kand.
tekhn.nauk, red.; BUKRINSKIY, V.A., kand.tekhn.nauk, red.; VOLKOV, K.Yu.,
inzh., red.; VOROB'YEV, A.A., inzh., red.; ZVONAREV, K.A., prof. doktor
tekhn.nauk, red.   (Continued on next card)

ABRAMOV, S.K.--- (continued)   Card 2.
    ZDANOVICH, V.G., prof.,doktor tekhn.nauk,red.; IVANOV, G.A., doktor
    geol.-min.nauk, red.; KARAVAYEV, N.M., red.; KOROTKOV, G.V., kand.geol.-
    min.nauk, red.; KOROTKOV, M.V., kand.tekhn.nauk, red.; MAKKAVEYEV, A.A.,
    doktor geol.-min.nauk, red.; OMEL'CHENKO, A.N.,kand.tekhn.uauk,red.;
    SENDERZON, B.M.,kand.geol.-min.nauk, red.; USHAKOV, I.N., dots., kand.
    tekhn.nauk, red.; YABLOKOV, V.S., kand.geol.-min.nauk,red.; KOROLEVA,
    T.I., red.izd-va; KACHALKINA, Z.I., red.izd-va; PROZOROVSKAYA, F.L.,
    tekhn.red.; NADKINSKAYA, A.A., tekhn.red.

    [Mining; an encyclopedic handbook] Gornoe delo; entsiklopedicheskii
    apravochnik. Glav. red. A.M.Terpigorev. Moskva, Gos.nauchno-tekhn.
    izd-vo lit-ry po ugol'noi promyshl. Vol.2. [Geology of coal deposits
    and surveying] Geologiia ugol'nykh mestorozhdenii i marksheiderskoe
    delo. Redkolegiia toma S.V.Troianskiy. 1957. 646 p.   (MIRA 11:5)

    1. Chlen-korrespondent AN SSSR (for Karavayev)
                (Coal geology--Dictionaries)

ANDRIYEVSKIY, V.D., Cand Geol-Min Sci — (diss) "Litologo-*facies* environmen-
tal characteristics and prospects of coal-bearing properties of
substratum coal deposits of Yuzhno-Kugodsharskiy Rayon." Mos, 1959. *20 pp.*

(Min of Higher Education USSR. Mos, Order of Lenin State U im
M.V. Lomonosov), 110 copies (KL,40-59, 102)

15

SKOBLOV, D.A., inzh., red.; ANDRIYEVSKIY, V.G., kand. tekhn. nauk, red.; SOLOV'YEV, S.P., kand. tekhn. nauk

[Construction specifications and regulations] Stroitel'nye normy i pravila. Moskva, Gosstroiizdat. Pt.1. Sec.V. ch.20. [Articles for filling openings and skylights] Izdeliia dlia zapolneniia proemov i fonarei (SNiP I-V. 20-62). 1963. 6 p.
(MIRA 17:3)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Gosstroy SSSR (for Skoblov). 3. Mezhvedom-stvennaya komissiya po peresmotru Stroitel'nykh norm i pravil (for Andriyevskiy). 4. TSentral'nyy nauchno-issledovatel'skiy institut eksperimental'nogo proyektirovaniya zhilishcha Aka-demii stroitel'stva i arkhitektury SSSR (for Solov'yev).

VINOGRADOV, A.I., prof., doktor tekhn.nauk; ANDRIYEVSKIY, V.G.,
assistent

Model of an elastic-viscous medium and its application for the
specification of the mechanical characteristics of secondary
capron. Trudy KHIIT no.45:100-121 '61.   (MIRA 15:5)
(Elasticity—Models)   (Nylon)

ANDRIYEVSKIY, V.G.

Effect of stress relaxation and temperature on the operation of capron bearing bushes. Plast.massy no.5:64-65 '62. (MIRA 15:4)
(Nylon--Testing) (Bearings (Machinery))

L 18462-63   EPF(c)/EWP(j)/EWT(m)/BDS/ES(v)   AFFTC/ASD   Pc-4/Pr-4/
Pe-4   RM/WW/MAY
ACCESSION NR: AR3006451   3/0124/63/000/003/V079/V079

SOURCE: RZh. Mekhanika, Abs. 8V665   72

AUTHOR: Vinogradov, A. I.; Andriyevskiy, V. G.

TITLE: On energetic theory of durability of a viscoelastic material

CITED SOURCE: Nauchn. tr. Khar'kovsk. in-t inzh. zh.-d. transp., vy*p. 58, 1962,
109-120

TOPIC TAGS: viscoelastic, viscoelasticity, high polymer, durability, energetic
theory, energy conservation, Kapron, heat capacity, torsion

TRANSLATION: This paper proposes and experimentally verifies the premises for the
approximate theory of strain and breakdown of viscoelastic media as applied to
high polymers and in particular to Kapron. Attention is focussed on the case of
vibratory loads which are characterized by the necessity of considering in the
general case the energy of thermal exchange and the energy of increase of the heat
capacity. The fundamental equation of energy dissipation for viscoelastic media
based on the law of conservation of energy is described in the following form:
$U = U_T + U_S + U_k$ where in unit time at the point being considered during a given

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ACCESSION NR: AR;006451 D

time interval: U is the energy dissipation of the dissipative procoss, U_T is the
energy of thermal exchange with the surrounding medium, U_s is the increase of the
heat capacity (during the increase of temperature), U_k is the energy dissipated in
connection with the variation of the structure and physical properties of the
material. The authors distinguish the special case of the deformation process with
a vibrated load, separating the relative value of the components of the total
scattered energy of the dissipative process. In all cases one may consider both
stable and unstable systems of deformation. Consideration is made of definite
energy of the dissipative process for linear stressed states of various models of
elastically connected media: 1) elastically connected elements with parallel coup-
ling of elastic and viscous components; 2) a model in which the elastic and viscous
elements are joined or in series; 3) a model of a viscoelastic element with four
parameters. Experimental studies were conducted on samples of second order Kapron.
The sample was worked, as a cantilever arm loaded at the end by a force. The test
cycle was symmetric. The experiments were conducted at a temperature of 20 ± 2°
and at relative humidity of 40-50%. An apparatus was introduced on which the mag-
nitude of the sag, the temperature of the sample and the torsional moment were
measured and recorded on a self-recording galvanometer tape. The separation into
the three special cases of the process of testing with a vibratory load was ex-
perimentally verified: 1) for sufficiently small loads on the sample (up to 250

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ACCESSION NR: AR3006451   0

grams), 2) for higher loads (350-700 grams), and 3) for very high loads (greater
than 700 grams). Examination was made of the characteristic peculiarities of each
of these cases. Case 2) was considered more carefully, as it represents the case
of greatest interest, since in use the material breaks down under analogous condi-
tions. Thus the basic assumptions of the energetic theory of the durability of
polymers with the use of the four element model of viscoelastic media is experi-
mentally corroborated. Bibl. 7 names. N. V. Russkov

DATE ACQ: 28Aug63   SUB CODE: MA, AP   ENCL: 00

Card 3/3

ANDRIYEVSKY, V.G. (Khar'kov)

"On the theory of deformation of polycaprolactam".

report presented at the 2nd All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 29 January - 5 February 1964

ANDRIYEVSKIY, V.G., inzhener.

Measures for controlling wear of surface areas in gear teeth of
diesel locomotive traction engines. Tekh.zhel.dor. 15 no.1:
25-26 Ja-F '56.   (MLRA 9:5)
          (Diesel locomotives) (Gearing)

ANDRIYEVSKIY, V.G., inzhener.

Permissible compression force on a railroad car. Trudy KHIIT no.26:
235-242 '56.   (MLRA 9:12)
            (Railroads--Cars)   (Elasticity)

ANDRIYEVSKIY, V G

VOLLSHKIN, Yu.Ye., (st.Verkhniy Baskunchak); ANDRIYEVSKIY, V.G.; inzhener
po remontu (st.Verkhniy Baskunchak)

On the operation of gas generator diesel locomotives. Zhel.dor.
transp. 39 no.2:78 F '57.   (MLRA 10:3)

1. Zamestitel' nachal'nika teplovoznogo depo.
        (Diesel locomotives)

ANDRIYEVSKIY, V.G., inzh. (g.Khar'kov)

Ways to control dents in rails. Zhel.dor.transp. 43 no.2:45-46
F '61.   (MIRA 14:4)

(Railroads—Rails)

SAMOYLOV, S.M.; ANDRIYEVSKIY, V.N.; KOTLYAREVSKIY, I.L.

Separate determination of small amounts of ethylene oxide,
formaldehyde, and acetaldehyde in mixed aqueous solutions.
Izv. AN SSSR Otd.khim.nauk no.2:201-208 F '62.
(MIRA 15:2)
1. Institut nefte- i uglekhimicheskogo sinteza AN SSSR.
(Ethylene oxide)
(Acetaldehyde)
(Formaldehyde)

SAMOYLOV, S.M.; KOTYAREVSKIY, I.L.; ANDRIYEVSKIY, V.N.

Study of the reaction of noncatalytic oxidation of ethane.
Zhur. prikl. khim. 36 no.5:1146-1149 My '63.   (MIRA 16:8)

(Ethane)   (Oxidation)

KOTLYAREVSKIY, I.L.; SHVARTSBERG, M.S.; ANDRIYEVSKIY, V.N.; KRUGLOV, B.G.

Highly unsaturated polymers. Report No.7: Linear polynuclear
diethinylarenes and their oxidative polycondensation. Izv.
AN SSSR. Ser. khim. no.11:2032-2036 N '63.   (MIRA 17:1)

1. Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya
AN SSSR.

L 13700-66   EWT(d)/FSS-2/EWT(1)/EWP(m)/FS(v)-3/EWA(d)/EWP(v)/T/EWP(k)/EWP(h)/EWP(1)--
ACC NR: AT6003567 IJP(c)   GS/GW/BC   SOURCE CODE: UR/0000/65/000/000/0005/0019

AUTHOR: Andriyevskiy, V. V.

ORG: none

TITLE: An optimum correction of the control program

SOURCE: Issledovaniya po dinamike poleta (Research on flight dynamics), no. 1. Moscow,
Izd-vo Mashinostroyeniye, 1965, 5-19

TOPIC TAGS: optimum automatic control, error correction, thrust vector control

ABSTRACT: A control system is taken whose behavior (the trajectory) is described by
the system of ordinary differential equations

$$y_i = f_i(y_1 \ldots y_n; y_{n+1}),$$
$$i = 1 \ldots n,$$
(1)

where $y_1 \ldots y_n$ are coordinates of the system and $y_{n+1}(t)$ is a control function (the
control program). An artificial approximate method for determining the optimum control
is presented in the case when certain non-optimal trajectory Y* is known in the neigh-
borhood of which the extremal trajectory is expected to be determined or a compara-
tively small domain Q of allowable trajectories is known in which the extremal tra-

Card 1/3   UDC: 629.19.04.005

L 13700-66

ACC NR: AT6003567 O

jectory is contained. Assuming that the control $y_{n+1}^{*}(t)$ ensures a certain trajectory $y^{*}(t)$, in the vicinity of which the extremal solution is expected to be determined, the co-ordinates of the trajectory and of the control are represented as follows:

$$y_i = y_i^{*} + \eta_i$$
$$i = 1,\dots,n; \; n+1, \tag{2}$$

where η_i ($i = 1,\dots,$ n) are deviations in the coordinates of a trajectory and η_i ($i = n+1$) is the deviation in the coordinate of the control. In the domain Q system (1) is expressed in the form of series in terms of approximate coordinates and deviations and the performance functional I is represented as a sum of its value I* on the trajectory Y = Y* and of the deviation ΔI when the coordinate of the system deviates from Y* by η. The initial problem of optimizing the control function $y_{n+1}(t)$ of system (1) for the domain D is formulated as follows: In the domain Q, it is to find the optimal deviation (correction) $\eta_{n+1\,opt}(t)$ from the given control $y_{n+1}^{*}(t)$ which optimizes ΔI. The defined problem is equivalent to the initial one and for determining the optimal correction of the control function the well known variational methods are applied. The assumption that η is small and other assumptions have simplified substantially the solution of the problem. Certain properties of obtained solutions are analyzed and the problem of selecting the initial control program is considered. It is advised to take as an initial trajectory an optimal solution of (1) determined under certain simplifying assumptions. As an illustration, the method

Card   2/3

Card   3/3 $\mathcal{DK}$

ANDRIYEVSKIY, V.N., inzhener.

Changing 35 kv transmission lines over to 110 kv. Elek.sta. 28
no.9:63-66 S '57.   (MIRA 10:11)
                        (Electric power distribution)

ANDRIYEVSKIY, V.N., inzh

Determining the minimum permissible diameters for parts of wooden
supports of electric power lines. Elek.sta. 29 no.9:34-40
S '58.   (MIRA 11:11)
                    (Electric lines--Poles)

ANDRIYEVSKIY, V.N., inzh.

Damage of the wires of 35 to 220 kv. electric power transmission
lines caused by insulation sparkovers. Elek. sta. 31 no.9:54-59
S '60.   (MIRA 14:10)
              (Electric lines—Overhead)

ANDRIYEVSKIY, V.N., inzh.

Deformation of metal towers on 220 kv. electric power
transmission lines. Elek. sta. 31 no.9:77-78 S '60. (MIRA 14:10)
(Electric lines—Poles)

ANDRIYEVSKIY, V.M.,inzh.

Swinging of the conductors of a 110 kv. power transmission line.
Elek.sta.33 no.1:86-87 Ja '62.   (MIRA 15:3)
                         (Electric lines--Overhead)

ANDRIYEVSKIY, Valeriy Nikolayevich; VASIL'YEV, A.A., red.; SHIROKOVA,
M.M., tekhn.red.

[Use of wooden supports for overhead electric power transmission
lines]Ekspluatatsiia dereviannykh opor linii elektroperedachi.
Moskva, Gosenergoizdat, 1962. 55 p. (Biblioteka elektromontera,
no.71)   (MIRA 16:2)
       (Electric lines—Poles and towers)

ANDRIYEVSKIY, Valeriy Nikolayevich; NIKOLAYEVA, M.I., red.; LARIONOV,
G.Ye., tekhn. red.

[Use of metal and reinforced concrete towers for power
transmission lines] Ekspluatatsiia metallicheskikh i zhe-
lezobetonnykh opor linii elektroperedachi. Moskva, Gos-
energoizdat, 1963. 87 p. (Biblioteka elektromontera, no.92)
(MIRA 16:8)

(Electric lines—Poles and towers)

Andriyevskiy, V.N.

AID Nr. 980-14   31 May

POLYMER WITH TETRAACETYLENE GROUPS IN THE BACKBONE (USSR)

Shvartsberg, M. S., I. L. Kotlyarevskiy, and V. N. Andriyevskiy.   IN:
Akademiya nauk SSSR.   Izvestiya. Otdeleniye khimicheskikh nauk, no. 3,
Mar 1963, 575-576.   S/062/63/000/003/018/018

A highly unsaturated polymer (I) whose conjugated chain consists of alter-
nating aromatic and tetraacetylene groups was prepared for the first time at
the Institute of Chemical Kinetics and Combustion, Siberian Department of
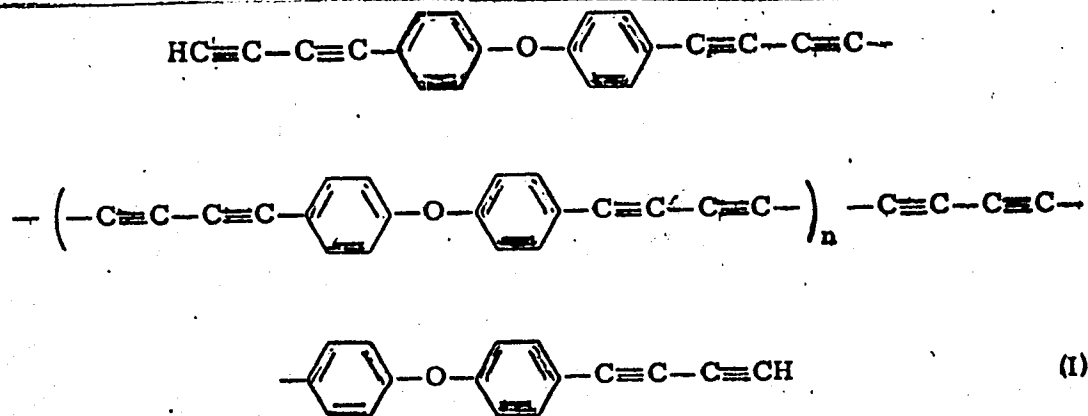
Card 1/3

AID Nr. 980-14   31 May

POLYMER WITH TETRAACETYLENE GROUPS [Cont'd]   8/062/63/000/003/018/018

the Academy of Sciences USSR. The polymer of 4-butadiynylphenyl ether (II)
had the following probable structure:

$$HC{\equiv}C-C{\equiv}C-\!\!\bigcirc\!\!-O-\!\!\bigcirc\!\!-C{\equiv}C-C{\equiv}C-$$

$$-\left(-C{\equiv}C-C{\equiv}C-\!\!\bigcirc\!\!-O-\!\!\bigcirc\!\!-C{\equiv}C-C{\equiv}C-\right)_n\!-C{\equiv}C-C{\equiv}C-$$

$$-\!\!\bigcirc\!\!-O-\!\!\bigcirc\!\!-C{\equiv}C-C{\equiv}CH \qquad\qquad (I)$$

Monomer II, which was synthesized in a 20% yield from 4-acetoacetylphenyl
ether, is stable only in dilute solutions, discolors in air, and decomposes at

Card 2/3

AID Nr. 980-14   31 May

POLYMER WITH TETRAACETYLENE GROUPS (Cont'd)   8/062/63/000/003/018/018

about 85°C. The IR spectrum of II contains a 2227 cm^{-1} C≡C, a 3338 cm^{-1}
C≡CH, and a 1247 cm^{-1} ether band. Polymer I was prepared by polyconden-
sation of II in a pyridine-benzene solution in the presence of CuCl in an O_2
atmosphere. Polymer I is a dark-violet powder insoluble in organic solvents,
and explodes on heating. The IR spectrum of I contains a 2208 cm^{-1} C≡C
and a 1238 cm^{-1} ether band and an 830 cm^{-1} band due to the 1,4-substituents of
the benzene ring. Polymer I has an EPR spectrum with an intense signal;
the line width is 4.3 oe, and the number of unpaired spins is 8.25 x 10^{17}/g.

[NI]

Card 3/3

ANDRIYEVSKIY, Valeriy Nikolayevich; GOLOVANOV, Aleksandr Trofimovich; ZELICHENKO, Abram Simkhovich; KARSAULIDZE, A.N., red.; LARIONOV, G.Ye., tekhn. red.

[Operation of overhead power transmission lines] Eksplua- tatsiia vozdushnykh linii elektroperedachi. Moskva, Gos- energoizdat, 1963.   527 p.   (MIRA 17:2)

BOLDYREV, V.V.; SHMIDT, I.V.; PIS'MENKO, V.I.; SHVARTSBERG, M.S.; KOTLYAREVSKIY,
I.L.; ANDRIYEVSKIY, V.N.; KOMAROV, V.F.

Effect of additions of organic compounds with conjugated bonds on
the rate of thermal decomposition of solids. Kin. i kat. 6 no.4:
766 Jl-Ag '65.   (MIRA 18:9)

1. Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya
AN SSSR.

L 24312-66   EWT(m)/EWP(j)/T   RM

ACC NR: AP6009795   SOURCE CODE: UR/0062/66/000/002/0302/0308

AUTHOR: Kotlyarevskiy, I. L.; Shvartsberg, M. S.; Vasilevskiy, S. F.;
Andriyevskiy, V. N.

ORG: Institute of Chemical Kinetics and Combustion, Siberian
Department of the Academy of Sciences (Institut khimicheskoy kinetiki i
goreniya Sibirskogo otdeleniya Akademii nauk)

TITLE: Highly unsaturated polymers. Report 13. Polynuclear
noncondensed diethynylarenes

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1966,
302-308

TOPIC TAGS: polymer, polynuclear hydrocarbon, aromatic hydrocarbon,
alkyne, condensation reaction, polymerization, polycondensation,
solubility

ABSTRACT: Reactions were run to confirm that the introduction of methyl
groups or of an oxygen bridge in the p-polyphenylene segment of a
diethynylarene molecule increases its solubility, thus permitting the
synthesis of diacetylenes containing a greater number of rings. The
following compounds were synthesized: 1^l, 2^4-diethynyl-1^λ, 2^3-
dimethylbiphenyl, 1^l, 4^4-diethynyl-1^λ, 2^3, 3^λ, 4^3- tetramethyl-p-

Card 1/2   UDC: 547.362+541.6

, 2431-66

ACC NR: AP6009795

quadriphenyl, and 4-ethynyl-4'-(p-ethynylphenoxy)biphenyl., Polymers of these compounds were obtained by oxidative polycondensation in alcohol-pyridine with a polycuprous chloride complex as catalyst. Condensation could not be effected in aqueous-alcohol or aqueous-acetone solutions. The polymers obtained were partially soluble in benzene. Orig. art. has: 1 figure.

SUB CODE: 07/ SUBM DATE: 09Oct63/ ORIG REF: 003/ OTH REF: 006

Card 2/2 ₦

L 23276-66   EWT(m)/EWP(j)   IJP(c)   RM

ACC NR: AP6012532   SOURCE CODE: UR/0062/66/000/003/0527/0533

AUTHOR: Shvartsberg, M. S.; Kotlyarevskiy, I. L.; Andriyevskiy, V. N., Vasilevskiy, S. F.

ORG: Institute of Chemical Kinetics and Combustion, Siberian Department of the Academy of Sciences SSSR (Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Highly unsaturated polymers. Communication 14. Poly[bis-(butadiynyl)arenes]

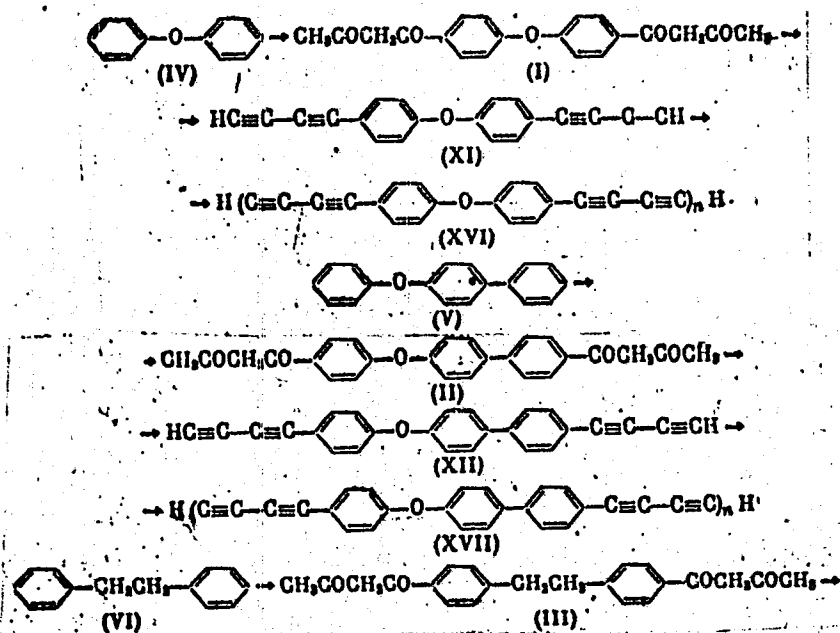TOPIC TAGS: organic semiconductor, semiconducting polymer, poly-acetylene, polyphenylene

ABSTRACT: New poly[bis(butadiynyl)arene] oligomers have been synthe-sized as part of a systematic investigation of the effect of structure on the electrical properties of conjugated polymers. The oligomers were prepared as follows:

Card 1/4   UDC: 542.952+547.362

L 2327-66
ACC NR: AP6012532

Compounds reaction scheme:

(IV) → $CH_3COCH_2CO-\phi-O-\phi-COCH_2COCH_3$ → (I)

→ $HC\equiv C-C\equiv C-\phi-O-\phi-C\equiv C-C-CH$ → (XI)

→ $H(C\equiv C-C\equiv C-\phi-O-\phi-C\equiv C-C\equiv C)_n H$ (XVI)

(V)

→ $CH_3COCH_2CO-\phi-O-\phi-\phi-COCH_2COCH_3$ → (II)

→ $HC\equiv C-C\equiv C-\phi-O-\phi-\phi-C\equiv C-C\equiv CH$ → (XII)

→ $H(C\equiv C-C\equiv C-\phi-O-\phi-\phi-C\equiv C-C\equiv C)_n H$ (XVII)

(VI) → $CH_3COCH_2CO-\phi-CH_2CH_2-\phi-COCH_2COCH_3$ → (III)

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L 23278-66

ACC NR: AP6012532

→ HC≡C—C≡C—⟨ ⟩—CH₂CH₂—⟨ ⟩—C≡C—C≡CH →

(XIII)

→ H(C≡C—C≡C—⟨ ⟩—CH₂CH₂—⟨ ⟩—C≡C—C≡C)ₙH

(XVIII)

CH₃CO—⟨ ⟩—⟨ ⟩—COCH₃ → CH₃COCH₂CO—⟨ ⟩—⟨ ⟩—COCH₂COCH₃ →

(VIII) (VII)

→ HC≡C—C≡C—⟨ ⟩—⟨ ⟩—C≡C—C≡CH →

(XIV)

→ H(C≡C—C≡C—⟨ ⟩—⟨ ⟩—C≡C—C≡C)ₙH

(XIX)

        CH₃   CH₃   CH₃   CH₃
CH₃CO—⟨ ⟩—⟨ ⟩—COCH₃ → CH₃COCH₂CO—⟨ ⟩—⟨ ⟩—COCH₂COCH₃ →

(IX) (X)

        CH₃   CH₃
→ HC≡C—C≡C—⟨ ⟩—⟨ ⟩—C≡C—C≡CH →

(XV)

        CH₃   CH₃
→ H(C≡C—C≡C—⟨ ⟩—⟨ ⟩—C≡C—C≡C)ₙH

(XX)
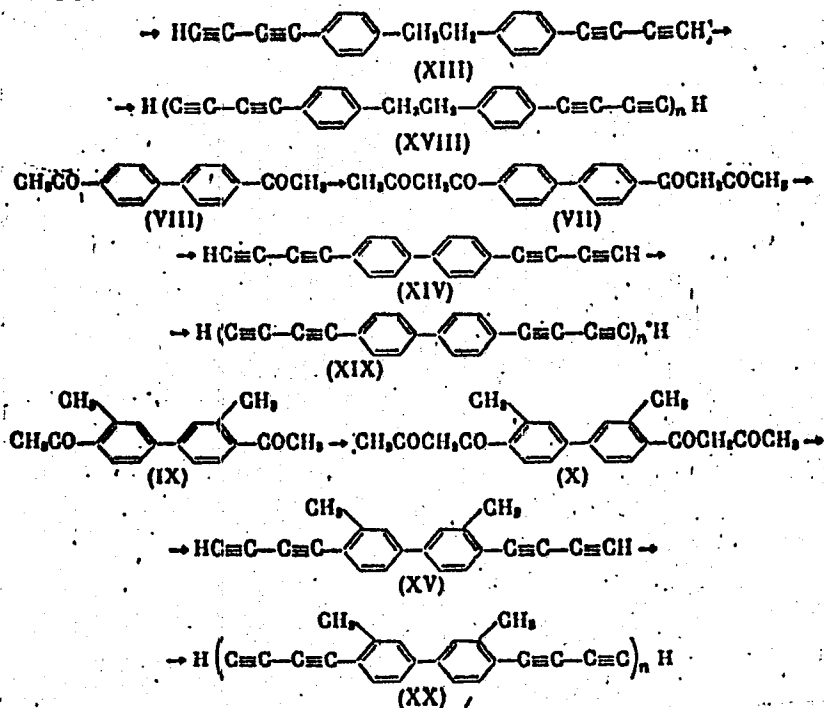
Card 3/4

L 23273-66

ACC NR: AP6012532

Preparation of tetraketones I, II, III, VII and X and of tetraacet-
ylenes XI, XII, XIII, XIV, and XV is described in the source. The
tetraacetylenes were subjected to oxidative polycondensation in
pyridine in the presence of cuprous chloride. Oligomers XVI—XX were
brown to black powders. EPR data are given. [Electrical properties
are not given in this article]. Orig. art. has: 1 table.   [SM]

SUB CODE: 07/ SUBM DATE: 04Nov63/ ORIG REF: 005/ OTH REF: 003
ATD PRESS: 4231

Card 4/4 ULR

L 45775-66   EWT(m)/EWP(j)/T   RM

AUTHOR: Dulov, A. A.; Slinkin, A. A.; Rubinshteyn, A. M.; Kotlyarevskiy, I. L.;
Shvartsberg, M. S.; Andriyevskiy, V. N.; Zanina, A. S.; Shergina, S. I.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR
(Institut organicheskoy khimii Akademii nauk SSSR); Institute of Chemical Kinetics and
Combustion, Siberian Branch, Academy of Sciences, SSSR (Institut khimicheskoy kinetiki
i goreniya Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Influence of disturbance of conjugation on the properties of semiconducting
polymers

TOPIC TAGS: semiconducting polymer, conjugated polymer, semiconductor conductivity

ABSTRACT: It has been frequently reported in the literature that the disturbance of
conjugation in organic semiconductors as a result of either noncoplanarity of aromatic
rings or introduction of aliphatic, oxygen, or sulfur bridges into the conjugated
chain lowers the electric characteristics. In the present paper, the intensity of the
influence of these different types of conjugation disturbances was compared in a se-
ries of polymers of a single class, the polyarylenepolyacetylenes, whose electrical
conductivity σ and ESR spectra were measured. The introduction of various groups dis-
turbing the conjugation into the conjugated chain was found to hinder the processes of

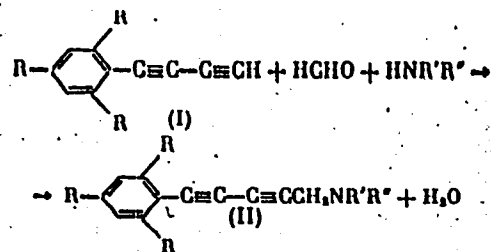Card 1/2   UDC: 541.67

ACC NR;   AP6024413

current transfer. The relative effectiveness of this hindering influence of different groups may change with the flexibility of the molecules, which affects the intermolecular interactions. In particular, the biphenylene grouping, which sharply decreases the electric properties of "linear" structures, does not affect the properties of polymers consisting of more flexible oxygen-containing molecules. It is notable that bridge groups do not appreciably lower the semiconducting properties. The paper was presented by Academician Kazanskiy, B. A., 23Oct65. Orig. art. has: 1 table.

SUB CODE: 07/ SUBM DATE: 23Jul65/ ORIG REF: 014/ OTH REF: 003

Card 2/2 ULR

ACC NR: AP6025401

$$R-\underset{R}{\overset{R}{\bigcirc}}-C\equiv C-C\equiv CH + HCHO + HNR'R'' \rightarrow$$

(I)

$$\rightarrow R-\underset{R}{\overset{R}{\bigcirc}}-C\equiv C-C\equiv CCH_2NR'R'' + H_2O$$

(II)

where: R, R', and R'' are H or C_2H_5 (see table):

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ACC NR: AP0025401

Table 1.   1-N,N-dialkylamino-5-aryl-2,4-pentadiynes

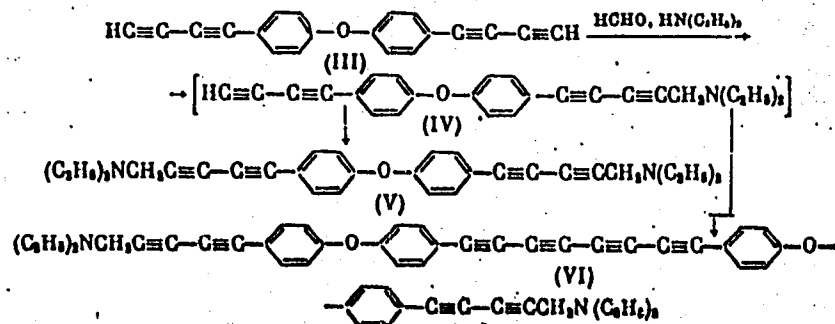| R	R'	R"	Yield %	Found N, %	Formula	Calcu lated N, %	$\nu(C\equiv O)$, cm⁻¹	Picrate				Hydrochloride			
								mp, °C	Found N, %	Formula	Calcd N %	mp, °C	Found Cl %	formula	Calcd Cl, %
H	C_6H_5-	C_2H_5-	74,5	6,86	$C_{15}H_{19}N$	6,63	2242	126,5—127,5	12,82	$C_{21}H_{22}N_4O_7$	12,72	164—165	14,52	$C_{15}H_{18}ClN$	14,31
H	$-(CH_2)_5-$		73,0	6,25	$C_{16}H_{17}N$	6,27	2243	118—119	12,21	$C_{22}H_{20}N_4O_7$	12,39	212—214 (decomp.)	13,59	$C_{16}H_{18}ClN$	13,65
H	$-CH_2CH_2OCH_2CH_2-$		55,5*	6,48	$C_{15}H_{15}NO$	6,22	2245	—	—	—	—	178,5—180	13,58	$C_{15}H_{16}ClNO$	13,55
CH_3-	C_6H_5-	C_2H_5-	80,1	5,72	$C_{16}H_{21}N$	5,53	2230	187,5—189	11,42	$C_{22}H_{24}N_4O_7$	11,66	220—222 (decomp.)	12,07	$C_{16}H_{20}ClN$	12,24
CH_3-	$-(CH_2)_5-$		82,4	5,40	$C_{17}H_{19}N$	5,28	2236	184,5—186	11,44	$C_{23}H_{22}N_4O_7$	11,33	225—227 (decomp.)	11,74	$C_{17}H_{20}ClN$	11,75
CH_3-	$-CH_2CH_2OCH_2CH_2-$		51,7**	5,30	$C_{16}H_{17}NO$	5,24	2236	—	—	—	—	216—218 (decomp.)	11,68	$C_{16}H_{18}ClNO$	11,67

* mp 73.5—74°C (petroleum ether)
** mp 67—68.5°C (petroleum ether)

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ACC NR: AP0025401

Under the same conditions, condensation of p,p'-bis(butadiynyl)diphenyl
oxide with paraform and diethylamine gave the tetraacetylenic amines V
(mp 52—52.5°C) and VI (mp 150—152°C):

$$HC{\equiv}C-C{\equiv}C-\bigcirc-O-\bigcirc-C{\equiv}C-C{\equiv}CH \xrightarrow{HCHO, HN(C_2H_5)_2}$$

(III)

$$\rightarrow \left[HC{\equiv}C-C{\equiv}C-\bigcirc-O-\bigcirc-C{\equiv}C-C{\equiv}CCH_2N(C_2H_5)_2 \right]$$

(IV)

$$(C_2H_5)_2NCH_2C{\equiv}C-C{\equiv}C-\bigcirc-O-\bigcirc-C{\equiv}C-C{\equiv}CCH_2N(C_2H_5)_2$$

(V)

$$(C_2H_5)_2NCH_2C{\equiv}C-C{\equiv}C-\bigcirc-O-\bigcirc-C{\equiv}C-C{\equiv}C-C{\equiv}C-C{\equiv}C-\bigcirc-O-$$

(VI)

$$-\bigcirc-C{\equiv}C-C{\equiv}CCH_2N(C_2H_5)_2$$

Orig. art. has: 1 table.   [W.A. 50; CBE No. 10]

SUB CODE: 07/ SUBM DATE: 22Dec65/ ORIG REF: 004/ OTH REF: 001/

Card   4/4

L 64299-65   EWT(m)/EPF(c)/EWA(d)/EWP(j)/T   WW/RM
ACCESSION NR: AP5020990   UR/0195/65/006/004/0766/0766
                                        541.7

AUTHOR: Boldyrev, V. V.; Shmidt, I. V.; Pis'menko, V. I.; Shvartsberg, M. S.;
Kotlyarevskiy, I. L.; Andriyevskiy, V. N.; Komarov, V. F.

TITLE: Effect of additions of organic compounds with conjugate bonds on the rate
of thermal decomposition of solid substances

SOURCE: Kinetika i kataliz, v. 6, no. 4, 1965, 766

TOPIC TAGS: thermal decomposition, solid kinetics, conjugate bond system,
silver compound, topochemistry

ABSTRACT: It has been observed that certain organic compounds with a system
of conjugate multiple bonds exert an effect on the rate of thermal decomposition.
Tests were made of the effect of heterophas additions (5% on the weight of oxalate)
of conjugate alpha, omega-diarylpolyenes (I)-(IV) on the rate of thermal decom-
position of silver oxalate at 133C. A figure is given which shows a plot of the de-
gree of conversion against time. Results show that additions of the above sub-

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L 64299-65

ACCESSION NR: AP5020990   2

stances bring about just as sharp a decrease in the decomposition rate as do the
inorganic additives ordinarily employed for this purpose. The effect of organic
compounds on the rate of topochemical processes is evidently connected with the
special characteristics of the redistribution of the electrons between the additive
and the oxalate. Orig. art. has: 1 figure.

ASSOCIATION: Institute khimicheskoy kinetiki i goreniya SO AN SSSR (Institute
of Chemical Kinetics and Combustion of the Siberian Branch AN SSSR)

SUBMITTED: 20Mar65   ENCL: 00   SUB CODE: OC, TD

NR REF SOV: 004   OTHER: 004

Card 2/2

ANDRIYEVSKIY, V.P. [Andriievs'kyi, V.P.] (Ternopol')

　　　　Behind the closed doors of the Pochayev Monastery. Nauka i
　　　　zhyttia 9　no.11:49-51　N '59.　　　　　　(MIRA 13:3)
　　　　　　　　　(Pochayev Monastery)

89172

16.9500 (1031, 1121, 1132)

AUTHOR: Andriyevskiy, V. R. (Leningrad)

TITLE: Estimation of natural oscillation parameters in nonlinear
               automatic control systems

PERIODICAL: Avtomatika i telemekhanika, v. 22, no. 2, 1961, 171-175

TEXT: A study has been made of an automatic control system which is des-
cribed by the equations

$$\dot{x}_s = \sum_{k=1}^{n} a_{sk}x_k + f_s \sum_{k=1}^{n} (b_{sk}x_k) \quad (s = 1,2,\ldots,n) \quad (1).$$

The parameters of the periodic operational conditions that are possible in
this system are mostly found by approximate solutions. A large class of
systems described by (1) permits applying the harmonic linearization. This
kind of linearization, as is well known, consists in that all terms of a
Fourier expansion with the exception of the first can be neglected in the
components of a periodic solution. One thus obtains by approximation:

$$x_s = a_s \sin(\omega t + \psi_s) \quad (s = 1,2,\ldots,n) \quad (2)$$

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S/103/61/022/002/003/015
B104/B201

Estimation of natural oscillation...

When it is assumed that the upper harmonics also are neglected in the Fourier expansion of $f_s(\sum\limits_{k=1}^{n} b_{sk}x_k)$, and that, moreover, f_s is unique and symmetrical, the following relation may be written:

$$f_s(\sum\limits_{k+1}^{n} b_{sk}x_k) = q_s \sum\limits_{k=1}^{n} b_{sk}x_k \quad (3).$$

(1) can then be represented as $\dot{x}_s = \sum\limits_{k=1}^{n} c_{sk}x_k$ (4), where $c_{sk} = a_{sk} + q_s b_{sk}$.

The following relation holds for the characteristic determinant of the harmonically linearized system: $\left| \|c_{sk}\| - j\omega E \right| = 0$ (5). If one succeeds in finding a system of equations (2) for which the condition (5) is satisfied, and where ω is in that region in which the harmonic linearization can be applied for (1), the problem will then be solved. This is practically impossible, however, in complicated systems with some nonlinear elements. An appreciable simplification is obtained when doing without the determination of parameters a_s and ω, and when restricting oneself to

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$\delta y \perp / c$

Estimation of natural oscillation...

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an estimation thereof. If q_s is taken at random, condition (5) may then be regarded as an equation for the boundary of the D decomposition of system (4). If the set of such points as lie on the boundary of the D decomposition in the space $\{q_1, \ldots, q_n\}$ is denoted by U, then every point $(q_1, \ldots, q_n) \in U$ (6) will, on the strength of relation (5), correspond to a certain frequency ω. This condition is satisfied if (1) has periodic solutions that can be approximated by (2) and if $(q_1, \ldots, q_n)$ can be assigned to the coefficients of harmonic linearization. The fact that in most cases occurring in the practice the possible values of the coefficients of linearization do not fill out the entire space $\{q_1, \ldots, q_s\}$ can be used to estimate a_s and ω. The condition $(q_1, \ldots, q_s) \in U \cap Q$ is given, where Q is the set of the values of the coefficients of linearization which are possible in the practice. Every point of this intersection corresponds to a determined frequency and it is sufficient for this set to contain at least one point to make a solution possible. The stability of the periodic solutions of the system (1) is examined and it is shown that this requires

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Estimation of natural oscillation...

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setting up the stricter condition $(q_1,\ldots,q_n) \in U_0 \cap Q$ (9). Here, U_0 is the boundary of the range of stability of (4) in the space $\{q_1,\ldots,q_n\}$.

On an increase of amplitudes a_s the point $(q_1,\ldots,q_n)$ is found further to shift into the stable region. This fact can be put to use to separate the unstable solutions from the stable ones. The natural oscillation parameters can be easily determined with the aid of (9), and the effect a change in the parameters of the system concerned has upon the natural oscillation parameters is studied. An example is finally discussed. There are 3 figures and 3 Soviet-bloc references.

SUBMITTED: August 29, 1960

Card 4/4

ANDRIYEVSKIY, V.Ya., dotsent; D'YACHENKO, P.S., dotsent; POVSHEDNAYA, O.P.

Diagnosis of latent forms of mastitis in cows. Veterinariia
41 no.6:94-96 Je '64.

(MIRA 18:6)

1. Belotserkovskiy sel'skokhozyaystvennyy institut.

ANDRIYEVSKIY, Vasiliy Yakovlevich [Andriievs'kyi, V.IA.];
SMIRNOV, Igor' Vasil'yevich [Smyrnov, I.V.];
LIPSKA, V.K.[Lips'ka, V.K.], red.

[Veterinary obstetrics, gynecology, and artificial
insemination] Veterinarne akusherstvo, ginekologiia i
shtuchne osimeninnia. Kyiv, Urozhai, 1965.   415 p.
(MIRA 19:1)

ANDRIYEVSKIY, Ya.A.; MIKHAYLOVSKIY, V.N.

Some problems in the temperature compensation of magnetometers
with magnetic modulation pickups and constant compensation magnets.
Avtom.kont. i izm.tekh. no.5:78-87 '61.
(Magnetometer)   (MIRA 14:11)

ANDRIYEVSKIY, Ya.I.,mostovoy master (stantsiya Tikhoretskaya Severo-
    Kavkazskoy dorogi).

    Shortcomings of new track bases. Put' i put.khoz. no.1:32
    Ja '59.
                (Railroads--Track)   (MIRA 12:2)